(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau





Pec'd PCT. TO

(43) International Publication Date 18 December 2003 (18.12.2003)

PCT

(10) International Publication Number WO 03/105380 A1

(51) International Patent Classification7:

(21) International Application Number: PCT/US03/16714

(22) International Filing Date: 28 May 2003 (28.05.2003)

(25) Filing Language:

English

H04J 3/16

(26) Publication Language:

English

(30) Priority Data:

60/386,319

6 June 2002 (06.06.2002) U

(71) Applicant (for all designated States except US): THOM-SON LICENSING S.A. [FR/FR]; 46, Quai A. Le Gallo, F-92648 Boulogne (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): VERMA, Shaily [IN/IN]; A-305 Glengate, Hiranandani Gardens, Powai, Mumbai 400 076 (IN). WANG, Charles, Chuanming [US/US]; 1504 Spearmint Circle, Jamison, PA 18929 (US).

(74) Agents: TRIPOLI, Joseph, S et al.; c/o Thomson Licensing, Inc., Two Independence Way, Princeton, NJ 08540 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

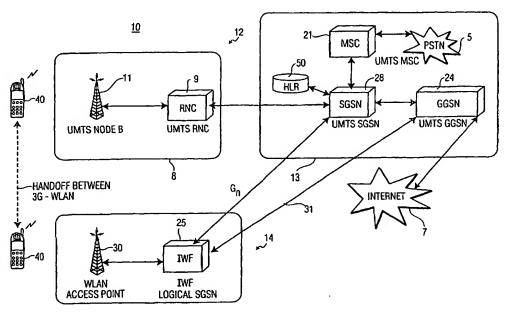
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report

[Continued on next page]

(54) Title: WLAN AS A LOGICAL SUPPORT NODE (SGSN) FOR INTERWORKING BETWEEN THE WLAN AND A MOBILE COMMUNICATIONS SYSTEM



(57) Abstract: An interface (28) for connecting networks includes an interworking function provided between a wireless local area network (WLAN) (8, 14) and a Public Mobile Land Network (PLMN) (13) to provide communication interactions between the PLMN (13) and the WLAN (8, 14). The interworking function includes a dual-protocol stack, which interfaces the WLAN protocols and PLMN protocols to provide seamless communications between the WLAN (8, 14) and the PLMN (13) such that an increase in available service bandwidth provided for users of the PLMN is maintained.



WO 03/105380 A1



 before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/16714

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : H04J 3/16 US CL : 370/466 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S.: 370/466, 465, 467, and 469			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched			
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where a	ppropriate, of the relevant passages	Relevant to claim No.
X, E	US 2003/0139180 A1 (MCINTOSH et al) 24 July 2	2003, page 4, paragraphs 50-52.	1-18
X, P	US 6,542,516 B1 (VIALEN et al) 01 April 2003, column 4, lines 20-49.		1-6, 10, and 13-17
Y, P			1 and 2
Y	EP 1 146 691 A1 (MORGANTI et al) 17 October 2001, page 6, lines 31-40.		1 and 2
A, P	A, P US 2002/0110104 A1 (SURDILA et al) 15 August 2002, see entire document.		1-18
A, E	E US 2003/0119481 A1 (HAVERINEN et al) 26 June 2003, see entire document.		1-18
A	WO 98/53576 A2 (MONRAD) 26 November 1998, see entire document.		1-18
Further documents are listed in the continuation of Box C. See patent family annex.			
Special categories of cited documents:		"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the	
"A" document defining the general state of the art which is not considered to be principle or theory underlying the invention of particular relevance			
"E" earlier application or patent published on or after the international filing date		"X" document of particular relevance; the claimed invention cannot be considered movel or cannot be considered to involve an inventive step when the document is taken alone	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is	
"O" document	referring to an oral disclosure, use, exhibition or other means	combined with one or more other such documents, such combination being obvious to a person skilled in the art	
"P" document published prior to the international filing date but later than the "&" priority date claimed		*&* document member of the same patent family	
Date of the actual completion of the international search Date of mailing of the international search report			
23 October 2	003 (23.10.2003)	14 NOV 20 9 3	
	ailing address of the ISA/US	Authorized officer	
Mail Stop PCT, Attn: ISA/US Commissioner for Patents Commissioner for Patents			1/201
P.O	. Box 1450	ן אושטען (ן	<i>\underline</i> \underline \underlin
Alexandria, Virginia 22313-1450 Telephone No. 703-305-4700 7 Facsimile No. (703)305-3230			

Form PCT/ISA/210 (second sheet) (July 1998)